Vol. 75 July 1958 No. 7

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Vol. 75 No. 7

July 1958

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ARCHIVES OF PEDIATRICS

Vol. 75 JULY 1958 No. 7

COLIC AND ALLERGY*

A Ten Year Study

FREDERIC SPEER, M.D.

Kansas City, Kansas

In the period immediately following birth, the newborn infant must make the change from an utterly dependent life to one in which he is responsible for all his vital functions. Not the least of these functions is the consumption of a volume of food which by adult standards is enormous. If, as is so often the case, he is obliged to digest a milk intended for the vastly different digestive system of the calf, he is especially liable to digestive difficulties. That there will be a certain amount of distress under these conditions is taken pretty much for granted by both family and physician. But when in spite of proper attention to feeding techniques and a decent period of waiting, a significant amount of abdominal pain continues, it is proper to say that the infant is a victim of colic.

Like migraine and angina pectoris, colic is a syndrome whose clinical picture is dominated by pain. The infant's distress is assumed to be of intestinal origin and to be somehow related to the accumulation of swallowed air in the intestine. That the infant is in the greatest pain is obvious, as the crying is of the utmost severity. That it is of intestinal origin is suggested by the common occurrence of tenesmus and by the measure of relief afforded by warm applications to the abdomen. That it is related to an accumulation of swallowed air is demonstrated by the dramatic relief which often follows the expelling of flatus.

* From the Pediatric Allergy Clinics, the University of Kansas Medical Center and The Children's Mercy Hospital, Kansas City.

Presented before the Annual Meeting of the American Academy of Pediatrics, held October 8, 1957, at Chicago, Illinois.

METHOD

Beginning in 1947, the writer began to study the allergic characteristics of all infants seen in office practice who presented the chief complaint of colic. Included in this study were all patients whose crying had not stopped spontaneously by the end of the first month of life and in whom some such cause of distress as improper feeding methods or anal stricture was not operative. By the end of a ten year period, ending in 1956, a total of 152 patients had been kept under sufficiently close observation to be included in the series.

In establishing the allergic origin of a given disease, one ordinarily relies chiefly on direct or passive transfer skin tests. However, in the case of colic, if it be to any degree an allergic manifestation, we are dealing with a problem in which such techniques are virtually useless, and less direct evidence must be sought.

In the opinion of Glaser,[3] colic may represent the earliest phase of allergic sensitization. If this be true, we would expect a study of colicky infants to reveal (a) a strong *family history* of allergy,[3] (b) effective *relief by food substitution*, and (c) a high incidence of *allergic sequelae*. These three categories encompass the evidence to be considered in this study.

FAMILY HISTORY

So as to determine the degree to which allergy is a family trait in colicky infants, the incidence of certain allergic diseases in parents of affected infants was compared with that of the incidence in the general public. Since nasal allergy, gastro-intestinal allergy, and allergic dermatoses are not easiy identified by history alone, these were not included in the survey. On the other

TABLE I

Asthma, Hay Fever, and Migraine
in Parents of Colicky Infants (139 Couples)

	General Population	Fathers	Mothers
Asthma	0.5%	7.9% (11 cases)	11.5% (16 cases)
Hay Fever	3.0%	5.0% (7 cases)	7.2% (10 cases)
Migraine	7.0%	14.4% (20 cases)	39.6% (55 cases)

hand, *asthma, hay fever,* and *migraine* may be recognized with a high degree of accuracy by interview, and these three were selected for study.

In Table I, the incidence of asthma, hay fever, and migraine in parents of infants in this series is compared with the estimated incidence in the general population. Family history is listed only once in instances where more than one case is from the same family, and was not, of course, available in adopted infants.

FOOD SUBSTITUTION

Infants on Formula: Of the one hundred and fifty-two infants in this series, one hundred and nineteen were begun on a cow's milk formula or were weaned early. In this group, satisfactory

TABLE II

Allergic Sequelae of Infantile Colic

Year Born	Total Cases	Asthma Cases	Per Cent	Nasal Cases	Per Cent	G.I. Cases	Per Cent
1947	12	5	41.7	2	16.7	7	58.3
1958	17	7	41.2	3	17.7	9	52.9
1949	14	4	28.6	2	14.3	9	63.3
1950	16	5	31.2	2	12.6	11	68.8
1951	16	1	6.3	3	18.8	7	43.8
1952	22	4	18.2	4	18.2	9	40.9
1953	12	3	25.0	1	8.3	6	50.0
1954	14	1	7.1	2	14.3	5	35.7
1955	17	2	11.8	2	11.8	8	47.0
1956	12	1	8.3	4	33.3	Unknown	
Total	152	33	21.4	25	16.4	71*	50.7*

*These values do not include children born in 1956.

relief was obtained in one hundred and eight cases (90.8 per cent) by the substitution of a soy milk (Mullsoy)[1] or one of the meat-

base formulas.[4] Many of these cases also showed intolerance to one or more other foods. Infants who responded poorly to diet change were at times, apparently, equally affected by all foods. Of these, some simply "outgrew" colic at about two or three months of age. More commonly, however, these patients revealed a tendency to severe allergic manifestations, and from this group came infants presenting anaphylactic type reactions as discussed below.

Breast Fed Infants: Of the thirty-three breast fed infants in this series, one or more foods in the mother's diet was identified as a cause of colic in twenty-three cases.[8] The foods responsible and the number of cases in which each was identified follow:

Cause	No. Cases
Egg, milk	5
Corn	4
Tomato, potato, onion, fish, legumes, chocolate, citrus	2
Wheat, banana, apple, sweet potato	1

ALLERGIC SEQUELAE

Among the allergic sequelae found to be especially common in this ten year period were asthma (33 cases), nasal allergy (25 cases), and gastro-intestinal allergy (81 cases). It is an interesting fact that eczema was not especially common (10 cases) and that no severe cases were seen.[10] (Table II, Fig. 1).

Asthma. Cases in which a diagnosis of asthma was made were seen on at least two occasions in a typical attack, and most have received specific study and treatment. Cases showing occasional wheezing with colds have not been included.

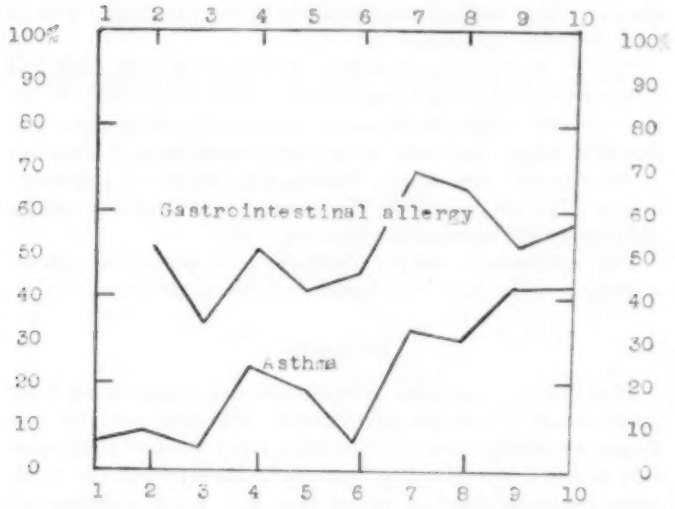
Nasal Allergy. Most cases of nasal allergy in this series were of the perennial type, but there were six case of pollinosis. Diagnosis was based on physical findings, nasal eosinophilia, and positive skin tests.

Gastro-intestinal Allergy. Cases included under this heading are those in whom a consistent relation was shown between specific foods and such gastro-intestinal complaints as diarrhea, abdominal pain, vomiting, and constipation.

Anaphylactic Type Reactions. Throughout the 10 years of this study, a number of infants were involved in obscure illnesses characterized by pallor, listlessness, shallow breathing, and vomiting.

In some cases, this type of reaction occurred on the return of a food which had previously caused colic, while in others the infant

Figure 1. Gastrointestinal allergy and asthma as sequelae of colic. (From Table II)



became ill while on an apparently compatible diet. In three instances sudden death occurred, and these three are here summarized:

Case 1: J. L., a male infant born April 7, 1953 had been severely colicky since birth. At the age of 2 months he developed persistent vomiting, pallor, and diarrhea. Although he did not seem especially ill, he was admitted to the hospital. Shortly after admission, he became very pale and listless, and the house physician reported rapid pulse, peripheral vascular collapse, and coma. Death occurred in about thirty minutes after this reaction.

The outstanding findings on autopsy were pulmonary edema and emphysema, edema of the liver, ascites, petechiae of pleura and epicardium. A definite pathological diagnosis was not made, but the pathologist considered an allergic death probable.

Case 2: T. F., a male infant born August 20, 1952 had been a victim of severe colic, due to cow's milk. At the age of 2½

months he developed persistent vomiting. Although this did not seem severe, he was admitted to the hospital for fluids. Physical examination was negative except for rapid pulse and weak heart sounds. About 18 hours after admission the infant suddenly became listless and pale, and death followed within minutes.

Autopsy findings included generalized anasarca, right hydrothorax, pulmonary congestion, and marked edema of the abdominal viscera. These findings were reported by the pathologist without more definitive diagnosis.

Case 3: W. S., a female infant, born November 26, 1953, had suffered from severe colic due to cow's milk and cereals. At the age of seven months she became ill with cough and dyspnea. She was hospitalized and after laryngologic consultation, a diagnosis of bronchiolitis was made. Radiography suggested pulmonary edema or bronchopneumonia. Treatment was without avail and the child expired 36 hours after admission.

The outstanding autopsy findings were pulmonary edema, atalectasis, and severe fatty metamorphosis of the liver.

DISCUSSION

If, as has been postulated, infantile colic may represent the initial manifestation of allergic sensitization, in dealing with the syndrome we should expect (1) to bring relief by food elimination, (2) to find a strong family tendency to allergy,[4] and (3) to observe a high incidence of allergic sequelae.[6] Let us consider each of these three criteria.

Family History. According to the best statistics, asthma occurs in about 0.5 per cent of the general population.[3] The fact that in this series of colicky infants nearly 8 per cent of fathers and 12 per cent of mothers gave an asthma history reveals an allergic background which is remarkable. It is interesting that such a strong family history is not found in the case of hay fever, a disease not associated directly with food allergy. Migraine, on the other hand, a disease often associated with food allergy and said to afflict some 7 per cent of the population[11] was found in about 14 per cent of fathers and 40 per cent of mothers.

Food Avoidance. For a five year period, 1952 through 1956, a correlated investigation was made to determine when babies "outgrow" colic. Mothers of older children giving a colic history were interviewed as to when the condition disappeared. It was found that in only 37.3 per cent of cases had colic disappeared by the

second month (Table III). Results in this series, where food substitution was practiced, were far better. By the end of the second month, of one hundred and fifty-two cases, one hundred and thirty-one (86.2 per cent) were relieved by food substitution. Although it is often doubtful in individual cases whether elimination represents specific relief or accident, these cases with their significantly high rate of relief strongly support the allergic theory of colic.

TABLE III

Age at which 188 Children "Outgrew" Colic

Age (Mon)	Patients	Per Cent	Cumulative %
1	27	14.4	14.4
2	43	22.9	37.3
3	59	31.4	68.7
4	10	5.3	74.0
5	5	2.7	76.7
6	24	12.7	89.4
9	10	5.3	94.7
12	7	3.7	98.4
18	3	1.7	100.0

Sequelae. Since a high incidence of allergic sequelae has been used to prove the presence of allergic factors in infantile eczema,[4-7] the high incidence of such sequelae in this study is impressive. If gastro-intestinal symptoms due to specific and ordinarily harmless foods constitute gastro-intestinal allergy, the high incidence shown in Figure 1 reveals that more often than not colicky babies present these manifestations in later childhood. Of even greater significance is the high incidence of asthma, reaching a level of 30 to 40 per cent by the six to ten year level.

Of further interest and importance is the fact that a number of these children have demonstrated behavior suggesting anaphylactic shock or "anaphylactic pneumonia."[9] In the cases where death occurred, clinical and autopsy findings strongly support this possibility.

SUMMARY AND CONCLUSIONS

That allergy is an important factor in infantile colic is revealed by a study of family history, food substitution, and allergic sequelae. Asthma was found to be sixteen to twenty-three times as common in parents of colicky infants as in the general population. Colicky infants (86.2 per cent), who were treated by specific food elimination, were relieved by the end of the second month of life, while in a control group allowed to "outgrow" colic, only 37.3 per cent had been relieved at the end of the second month. Between the ages of 6 and 10 years, the rate of asthma in children with a history of colic had risen to the range of 30 per cent to 40 per cent, and the rate of gastro-intestinal allergy was above 50 per cent.

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HASS, J.: CAN CONGENITAL DISLOCATION OF THE HIP BE PREVENTED? (New York State Journal of Medicine, 58:847, March 15, 1958).

So-called congenital dislocation of the hip develops from congenital dysplasia, that is, an underdevelopment of the hip, chiefly in the osseous roof of the acetabulum. It is our experience that ideal results can be obtained if the condition is treated within the first six months of life. The author's abduction bar is simple, practical, and an effective device for such treatment. Of the very greatest importance is diagnosis at a very early age, the most significant factor being the demonstration of an increased acetabular index on the roentgenogram. This can be recognized at the time of birth before other symptoms are established. It is suggested that all newborn infants should have x-ray examination of both hips as part of a routine medical check-up. AUTHOR'S SUMMARY

INCIDENCE OF VERRUCA PLANTARIS (PLANTAR WARTS) IN A SCHOOL POPULATION

J. J. Van Gasse, M.D.
and
R. F. Miller, M.D.
Jackson, Mich.

The presence of plantar warts among a school population is seldom a cause for alarm. Rather than being discovered by a physician, this condition is often first seen by a physical education instructor or athletic coach who may or may not properly diagnose the infection and refer it for treatment to a family physician. If the number of students involved is high, and especially if several children in one family are infected, parents and school personnel may be moved to ask for medical advice concerning the exclusion of students from gymnasium and pool and proper treatment. Those school board members who think ahead may also desire to know by what means such foot infections may be curtailed or eliminated in the future.

A brief review of the nature of plantar warts may be of value.[1,2] The condition has been described as a circumscribed benign epithelial proliferation induced by a filtrable virus. It is known that the disease is readily transmitted among persons in close association although the factors that predispose to infection are not well known.[7] The incubation period may vary from three weeks to several months. The verruca plantaris, because of its location on a pressure bearing area of the foot, becomes depressed below the surrounding skin surface and frequently causes formation of a thick callus. This callus often hides the wart itself and it may be necessary, in order to differentiate between a simple callus and plantar wart, to pare away the outer layers of callus to see what lies below. The warts are generally formed at points of pressure on the ball of the foot but may be scattered over the sole irrespective of pressure. They may be bilateral and small groups or clusters of warts are frequently found.

During the past several years one of the local intermediate schools had been plagued by what appeared to school officials to be an abnormally high incidence of plantar warts among students. Because of parental pressure arising largely from the cost of treatment for their children and staff indecision as to the handling of infected pupils, it seemed advisable to study the problem in some detail.

In the school district involved there is a requirement that all students must obtain a physical examination prior to their initial school enrollment, at the end of the sixth grade, and again at the completion of the ninth grade. Practically all of these physical examinations are performed by the family physician and are recorded upon a medical and health record which follows the student throughout his stay in the school system.

A review of these school health records for 5,000 students revealed that in only three cases had the presence of plantar warts been noted during such a routine examination (sixth grade) by the family physician during the past five years. In three other students the school physician had recorded the presence of verruca plantaris in this same large group of intermediate and high school students. The three cases observed by the school physician were in students who had been referred directly to him for this condition by the school nurse. On the basis of the information available from the school health records, we were forced to conclude that (1) the presence of plantar warts was an extremely rare finding, or (2) the examining physician seldom recognized or thought it of sufficient importance to record the findings of plantar warts even when recognized.

Because of the lack of reliable data, it was decided to study the problem more thoroughly. To collect the information needed we selected the three large intermediate schools and the public high school for the survey. An examining physician, assisted by one or more school nurses and clerical personnel, examined the feet of all students, with the exception of absentees, in the four selected schools. Examinations in each school required a full day and the number of students examined was roughly comparable in each case. Although this paper deals with the prevalence of plantar warts, other foot infections and orthopedic defects were recorded and studied. Using the same personnel throughout the survey, a total of 2,742 students was examined.

A student who was diagnosed as having plantar warts was immediately referred to the school nurse and a detailed case history obtained. In some cases the diagnosis was difficult to establish because of the extreme amounts of callus which surrounded the wart itself. A case history was obtained on these students and they were seen several days later by individual appointment when the examining physician had an opportunity to carefully recheck each doubtful case. When necessary, callus was removed and the wart exposed. The information obtained by the examining physi-

cian and by the interviewing nurse provides the basis for this study.

Table I shows the incidence of plantar warts in the four schools participating in the study. School A, a school in which it had been rumored there was a high incidence of plantar warts, actually did have the highest percentage of its students infected (6.8 per cent). The other three schools (B—3.1 per cent, C—2.8 per cent, and D—3.0 per cent) were found to have a rate of infection somewhat lower than School A. Our first impression was that the difference could be due to chance variation alone, but analysis of the data by the Chi^2 technique indicated that the difference was statistically significant and that students in school A apparently had a higher rate of infection than those in the remaining institutions.

TABLE I

School	Students Examined	Number with Diagnosed Plantar Warts	Percent Infected
A—Intermediate	620	42	6.8
B—Intermediate	639	20	3.1
C—Intermediate	743	21	2.8
D—High School	740	22	3.0
Total	2,742	105	3.8%

A study of Table II indicates that in schools B, C, and D the attack rate for male and female students was roughly the same while in school A, 7.8 per cent of the girls and 5.8 per cent of the boys were involved. This finding surprised the physical education staffs of all four institutions who were generally agreed that the incidence of plantar warts had heretofore been considered negligible among girl students.

TABLE II

School	Total Students Examined	Male Students Exam.	Male Students Infected		Female Students Examined	Female Students Infected	
			No.	%		No.	%
A—Intermediate	620	314	18	5.8	306	24	7.8
B—Intermediate	639	314	10	3.2	325	10	3.1
C—Intermediate	743	388	10	2.6	355	11	3.1
D—High School	740	429	12	2.8	311	10	3.2
Total	2,742	1,445	50	3.5%	1,297	55	4.2%

In fifty per cent of the cases diagnosed in the survey, the warts were extremely painful and in almost all cases there was asso-

ciated tenderness, if not pain.[3] In slightly under half (51 out of 105) of the cases, some form of treatment had been sought from the family physician or other practitioner of medicine. Duration of treatment in these cases had ranged from a few days to longer than two years and no cure had yet been achieved as evidenced by the finding of the wart during this study.

All of the students found infected were carefully questioned regarding the method of treatment used. No apparent standardized therapy was in evidence. Included among the various methods used were electrodesiccation, x-ray therapy, and the topical application of a wide variety of agents. Some physicians employed injection of procaine or other local anesthetic materials. Others had prescribed large doses of vitamin A and in nine cases there was a history of unsuccessful surgery.[2, 4, 5, 6]

The fifty-four new cases found during the study were not yet under treatment of any physician and were advised to arrange for medical care. A follow-up study by school nurses indicated that all but two had been seen by a physician during the succeeding six months. Again a wide variety of methods of treatment were being employed with varying degrees of success. Only ten of these fifty-four students had succeeded in getting rid of their infection during this period, although thirty-one others, who had previously been under care, were now symptom free.

Surprisingly, cures were obtained by several of the methods of treatment and, in three cases, in total absence of any treatment.

The presence of a statistically significant difference in infection between school A and the remaining three schools indicated that an attempt should be made to find possible reasons for such a difference. A review of pertinent literature indicated that the virus causing verruca plantaris can be experimentally transferred from one individual to another by inoculation. In such studies it has been found that the warts are likely to appear along scratch marks, at the site of an existing abrasion, or on contiguous surfaces.

A careful and detailed survey of the physical plant and athletic programs of all four schools was undertaken by Division of Environmental Health personnel of the local health department. The following important and possibly significant factors were found. At school A there is considerable emphasis upon an outdoor-type of intramural sports program. This program is largely conducted on a blacktopped playground. Many of the students in this school were observed to be wearing thin soled footwear while engaged in activities on the hard surfaced play area.

There is less emphasis on swimming and pool activities in school A and for a good portion of the year the pool was actually closed to use for reasons not in any way associated with this study. The students, however, used a shower room which was totally inadequate in size and a locker room which was decidedly overcrowded at all times. The floors were of porous concrete, and almost impossible to keep clean. During nine months of observation these floors were constantly wet with numerous stagnant pools of water. Observation of students indicated poor attention to foot hygiene, particularly in regard to the careful drying of the feet after a shower. In many ways this was a near impossibility as there was no dry place for the student to stand while toweling himself.

It was also noted that, en route from the locker room to the shower and on return, the student was forced to traverse barefooted an area used by other gymnasium classes on their way to and from the playground. This area became very wet and muddy and was impossible to keep clean.

In the other three schools, although each was of different construction and age, the emphasis on intramural sports and the facilities available differed markedly. School B, an intermediate school, and school D, the high school, are older institutions with crowded physical facilities for showering and dressing. In both, however, floor drainage is more satisfactory, ventilation and lighting is better, and floors tended to dry more rapidly.

School B, located in a near downtown area, has limited playground area and emphasis is placed upon use of the swimming pool and indoor sports. School D likewise places emphasis upon usage of the pool and there is no blacktopped playground in use. School C, modern and built within the last few years, has almost ideal physical facilities and, because of the modern pool, much emphasis is placed upon swimming. The floors are of hard tile with excellent lighting and ventilation throughout. Outdoor activities are conducted on sodded play areas.

CONCLUSION

As a result of the clinical study of the incidence of plantar warts and a careful review of the physical facilities and program emphasis at the schools involved, it appears likely that the following factors help to explain the higher incidence of infection in school A as contrasted to schools B, C, and D.

Verruca plantaris is caused by a filtrable virus. There is reason

to suspect that the infection is more likely to occur when feet are subject to trauma such as may result on blacktopped athletic surfaces or by use of thin soled footwear. It is also likely that the virus of plantar warts will flourish and be more readily transmitted when poor foot hygiene is practiced. The presence in school A of hopelessly crowded shower and locker rooms and poor design in traffic flow, both of which make it almost impossible to dry and clean the floors, may also be significant. The presence of plantar warts in a student of intermediate or high school age can be incapacitating to a limited extent and its treatment can be costly to the parent.

These factors make it important that attention be given to the design and maintenance of school facilities in an effort to reduce the incidence of this infection. It is also important that adequate and prompt treatment for the infection be obtained by the student.

SUMMARY

A study of 2,742 intermediate and high school students was conducted by the Department of Public Health of Jackson, Michigan. One hundred and five or 3.8 per cent of these students were found to have verruca plantaris.

There was no difference in the attack rate of the infection between boys or girls. However, when total student populations were compared, the incidence in one of the schools was found to be significantly higher than that in the other three. Some of the reasons for this difference have been discussed and some recommendations made which might help to reduce the incidence of the disease.

Acknowledgment: The authors would like to express their appreciation to Mrs. Margaret Stack, Director of Nurses, and Mr. Richard Hardy, Chief of Environmental Health, and their respective staffs of the Department of Public Health of the City of Jackson, for their assistance in conducting this study.

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OSTEO-CHONDRO-DYSTROPHIA HYPERCALCEMICA IDIOPATHICA

An Atypical Case of Morquio's Disease*

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True dwarfism is generally the result of a diffuse disease of the skeleton with impaired ossification.

Diffuse damage to the skeleton occurs also as a result of a deficient vitamin D supply in rickets. The somewhat different picture in celiac disease develops when D deficiency finds a nongrowing or very slowly growing skeleton. These types of damage are not permanent but reversible, and lead to short stature but not to true dwarfism. Also monogoloids, cretins, patients with osteopsatyrosis and other disease are short, but not true dwarfs.

Severe disturbance of ossification on a genetic basis, leading to dwarfism is seen in achondroplasia and in the many types of osteochondrodysplasia.

Achondroplasia (chondrodystrophia foetalis) is transmitted by a mendelian dominant, probably often the result of mutation (Morch). It is confined to the skeletal chondral system; periosteal function is unaffected. The results are bones short in length but of approximately normal diameter for the age. Morch estimates the number of achondroplastics in the adult population as one in 44,000. Lumbar lordosis and defective extension of the elbow joint are present. The shape of the head is typical in approximately four-fifths of the patients. The hands often show the "trident" form. Many children die in infancy. However, later life is not endangered. Many of the patients are mentally retarded, but not to a severe degree.

In "Morquio's disease", familial osseous dystrophy, osteochondrodystrophia deformans or hereditary osteochondrodystrophy, a deficiency of chondral ossification is found but the deformities are more pronounced in the spine and thorax resulting in shortening of the neck and trunk. However, the long bones may also show chondrodystrophic changes and deformation. Limitation of motion

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in the hip joints may result in a crouching posture and waddling gait. The head is generally large, the nose flattened. Many, but by no means all, patients are mildly mentally retarded. The disease is not fully developed at birth, but becomes apparent after walking begins, often in the fourth or fifth year. Brailsford described, firstly, the characteristic x-ray findings and the disease is often called Morquio-Brailsford's disease. The clinical picture in this disease is not uniform. Some types are so characteristic that they are accepted as disease entities: chondrodystrophia calcificans congentia and the often unilateral Ollier's disease. In the first, calcified stippling is seen around the epiphyses. In the second, we find uncalcified cartilage in the diaphysis.

CASE REPORT

This patient presents an atypical picture of "Morquio's disease". He was born on April 25, 1930, the sixth of eleven children. One and a half years before his birth, the mother delivered a girl after severe vaginal hemorrhage, who died after some artificial respiration was applied by the attending physican. One and a half years after the patient's delivery, the mother had a baby who died at birth and the physician diagnosed it as strangulation by the umbilical cord coiled around his neck.

Our patient's birth weight was 6½ pounds. He had a large frame but was very thin. Mother was very nervous during gestation. Membranes ruptured ten days before the birth, and it was thought that the infant could not live. At first he seemed to develop normally but fell severely ill at three months of age. It was claimed that the cow from which he received his milk was severely ill, and he was sick from "bad milk". He was always very short and never attended school. The parents and siblings are healthy and of normal intelligence. The parents are not related.

He was diagnosed as having severe rickets; his first teeth appeared at 9 months of age. At admission, at 7½ years of age, he was as large as he is today, 3 feet 1¼ inches and weighed 34 pounds. Head circumference was 20½ inches. He had "bad teeth", undescended testicles, short upper extremities and somewhat better developed lower extremities with deformities at the joints; strabismus; normal knee jerks; systolic murmur in the pulmonal region. His I.Q. was 63. (1938). In 1957 his height was 3 feet 1½ inches, his weight 66 pounds; blood pressure 96/66. Wassermann-negative.

In 1947, he was operated on for a left inguinal hernia and the undescended testicle was removed.

The present status reveals a dwarf 3 feet 1½ inches in height, weighing 66 pounds. His head is relatively large with a circumference of 23 inches; the neck is short and gives the impression that the head is pushed into the short and deformed thorax. The trunk is short with lumbar lordosis and thoracic kyphosis and elevated shoulders which gives him a somewhat bizarre appearance. Joints are deformed, thickened, with decreased mobility especially in the elbows, knees and hips; abduction of the legs and arms is restricted, the arms cannot be raised above the shoulders. The hands and feet are broad and stubby, with short fingers and toes. The relative length of the limbs and trunk shows marked disproportion. The abdomen is enlarged and the buttocks protruding. No enlargement of the liver nor spleen can be detected. The right testicle in the scrotum is 1¾ inches in diameter. The head is asymmetrical; the face is large with large lower jaw; the nose is broad with flattened base; the eyes deeply seated with severe strabismus convergence and nystagmus. Pupillary reaction to light is sluggish. Teeth are irregular. Knee jerks increased.

Laboratory findings:

Blood: (February 12, 1958)

Hemoglobin: 13.5 gm.; RBC: 4.800.000; WBC: 11.200; Platelets appear normal;
Stabs.: 2%, Segm.: 62%, Eosinoph.: 8%; Lymphoc.: 21%, Monoc.: 7%;
Calcium: 16 mgm.%, Phosphorus: 3.9 mgm.%;
Cholesterol: 285 mgm.%, Chol. esters: 245 mgm.%;
Phosphatase: Acid: 0.1 Bod. Units; Alc: 2.2 Bod. Units;
CO_2 comb. power: 25 mEq./1; Na: 138 mEq./1;
Chlorides: 103 mEq./1; Potassium: 134 mEq./1.;
Total base: 145 mEq./1.

Urine: Spec. Grav.: 1.020

Albumin and Sugar—negative
Calcium (24 hr. spec.): 439.48 mgm/1160 cc. or 353 mgm/1 (roughly quantitative)
Chlorides as sodium chloride: 4480 mEq./1160 cc. or 4.8 gms./24 hrs. spec.
Total Urine: 1160 in 24 hrs.

B. M. R.: + 54%

Dr. Fleischner, Professor of Radiology at Harvard University Medical School was kind enough to evaluate the x-ray pictures as follows:

"Films of the chest, pelvis, hands, skull, and lumbar spine reveal essentially normally developed skull and chest, except for small size. The skeletal changes are most marked in the lumbar region, where there is flattening of all of the vertebral bodies which are also irregular in contour and exhibit a tendency toward wedging with a central prolongation of the vertebral body anteriorly, forming a so-called tongue. The first lumbar vertebra is markedly wedged and shortened in A.P. diameter. These changes are all typical of those found in Morquio's disease. The femoral heads are quite hypoplastic and irregular in association with large and irregular acetebula. The metacarpals and phalanges are short, with pointing of the bases of the metacarpals and also the distal ends of the proximate phalanges. These changes of the hands and hips are also typical of this entity."

DISCUSSION

The case presented is a dwarf with the typical picture of the spine as seen in Morquio's disease, but also with very severe deformities of the long bones and especially of the hip joint. Neals is probably right when he says: "It is probable that in the future other varieties of dysplastic changes in the skeletal system will be observed. Authors should, however, try to avoid introduction of new names and so minimize confusion. We are uncertain whether some variable forms of some of these dysplasias are of common gene origin and even very experienced observers may find difficulty in classifying individual cases."

Our patient resembles the "unusual osseous dystrophy" which Brailsford has described, and especially the "metaphysal distortions" of Jansen.

These diseases have prominently been examined by roentgenologists. But it seems that differentiations should not be based primarily on the x-ray pictures as different etiology may lead to similar pictures. Overemphasis on x-ray similarities is the reason that even the "thesaurosis" of gargoylism was thought to belong to this group of diseases.

The fact should be stressed that Morquio in his first patients found low calcium in the blood. This patient has a calcium level of 16 mgm.% and only 3.9 mgm.% of phosphorus, figures which show a hyperfunction of the parathyroid, probably on a compensatory basis. Also the B.M.R. is + 54. No other signs of hyper-

thyroidism can be detected. We do not know how far these findings, which suggest endocrine imbalance, are of importance in the development of the condition.

Weinberg, as well as Penrose claim that these conditions appear often in children of an elderly father, an observation which makes an etiological understanding no easier.

This patient is classified as a case of Morquio's disease, with some similarity to the Jansen variation, without any suggestion of heredity, and with compensatory hyperparathyroidism and an unexplained partial hyperthyroidism.

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The use of a new long-acting sulfonamide, sulfamethoxypyridazine, has been reported in a group of 105 infants and children with respiratory infections. A favorable response to therapy was noted in 83 per cent of the patients treated. The drug was easily administered, well tolerated, and produced maintained blood concentrations of drug when small doses (15 to 20 mg./Kg. of body weight) were administered once every 24 hours. Untoward reactions (drug fever and skin eruptions) were noted in four of the patients. Sulfamethoxypyridazine is a drug with unique pharmacological properties that permit unique dosage regimens; its further use in the prophylaxis and treatment of sulfonamide-sensitive infections is indicated. AUTHOR'S SUMMARY

PEDIATRICS FIFTY YEARS AGO

OBSERVATIONS UPON THE COLORED CHILDREN OF JAMAICA WITH SPECIAL REFERENCE TO RICKETS AND TO MONGOLIAN SPOTS

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While on a visit to the Island of Jamaica I thought that I might employ my time profitably in making an examination of over 200 children of colored origin, who live in the poorest districts of Kingston, and compare them with the white children who live in a northern city, such as Montreal, and who are exposed to all the ills consequent upopn extreme poverty.

During this examination I paid particular attention to the different diseases which would affect the children living in a northern climate. I next looked for diseases which would be peculiar to the Island, and arrived at the conclusion that the colored children as a whole are up to a certain age healthier than those up north who live in poverty.

My examination included children ranging from one day to fifteen years of age. Most of the mothers nurse their children until they are six months old; some keep on nursing them until they reach the age of eighteen months. From their earliest age these nurslings are also given some form of starchy pap. As soon as they are weaned they are fed upon rice, bread, potato, yam, banana, casava, cornstarch, etc. If the children cannot be nursed, they are fed upon goat's milk or condensed milk; however, most of the infants who are not breast fed are given the above starchy diet. Most of the foods mentioned contain about 60 per cent to 70 per cent of starch in the dry state. It is generally believed that this diet is responsible for a large proportion of rickety children found throughout Canada, England and the United States,

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but I must say that it is a rare event to find rickets in a colored Kingston child.

I made a careful examination for rickets in the young children and was more than surprised to find that they were practically free from this disease. At most, I found one rickety head, one or two with delayed walking, and a few with bending of the ribs. I did not find one aggravated case of rickets in Jamaica. The question arises: Why are those children practically free from rickets? They are given a food which we are led to believe tends to be a suitable diet for rickets. Many of the children are nursed, but, as a rule, they are either taken away from the breast too soon or are kept at the breast too long. However, over-lactation with the addition of starchy food, we are taught, tends to produce rickets. I admit that those children live out of doors during the day time, but the nights are passed in little shacks with the windows and jalionses religiously closed, so that they scarcely get a breath of air. The little houses are in small yards crowded together and measuring about 9 x 13 feet in size. So that these young children exist almost exclusively on starchy food, and although having plenty of fresh air during the day sleep in poorly ventilated houses. Hence they have every opportunity to develop rickets, but they do not do so except in rare instances.

I must admit that for some time past my views as regards the causation of rickets have somewhat changed, and the results of my examinations tend to add to my skeptical frame of mind. We must look for more than an unsuitable diet and impure air as factors in the causation of rickets. In our northern climate the presence of rickets is invariably associated by the practitioner with an unsuitable diet, the fats and proteids being too low and the starch being away in excess of what it should be in a diet suitable for young children. Again, fresh air most likely has been at a minimum figure. We must look for more than those two factors. If rickets depended altogether upon food and fresh air I would expect to find that about 50 per cent of the children of Kingston would have rickets, but we only find that about 2 per cent or 3 per cent are so affected.

For some time past I have thought that a personal factor must be taken into consideration in looking for the causation of rickets. In other words, in the rachitic child there must exist a vulnerability or want of resistance. I do not think that rickets is inherited or is congenital (except in rare instances) to any greater degree than is tuberculosis; but I do think that there is inherited a pre-

disposition to rickets the same as in tuberculosis, and if a child is exposed to the causes which produce rickets it will readily develop the condition; the same causes, however, brought to bear upon another child who has not been born with this predisposition will not result in this disease. If this were not so how can we prove the exemption of the West Indian colored children from rickets? Again, how is it that one or two children in a large family will develop rickets, and that the other children who are brought up under identical conditions escape entirely? Again, in the case of twins we at times see that one will have rickets, the other be quite free from the disease.

Rickets is a family disease; and, furthermore, it will be found that many mothers who have rachitic children have had rickets themselves. Some families have children who are prone to develop the disease, while other families, who live under the same conditions as regards diet and fresh air, seem to escape altogether. Further, rickets is a selective disease. It will act upon a vulnerable system in one child, and the child may develop convulsions, tetany, laryngismus stridulus, facial irritability and other nervous manifestations of this disease. Rickets in this case seems to pick out the nervous system and leaves it in such an unstable condition that the least excitant appears to produce a motor discharge. The child is ready to have a convulsion, when exposed to the slightest irritation, from improper food, constipation, etc.

In another little individual we find that the nervous system appears to be quite normal, but he has a distended abdomen, the rosary is well marked; he is stout and happy—a good advertisement for some patent food; the child is often constipated for obvious reasons. In this case the nervous system is not at fault, but the digestive system appears to be the vulnerable part of his anatomy.

In a third child you will find that the nervous or digestive systems, do not appear to be at fault, but that the muscular is the system affected. He may have reached eighteen months of age and cannot stand upon his feet, and is brought to the physician because his mother thinks that he is paralyzed. On examination it is found that the muscles are soft and flabby and that the ligaments lack tone; the little limbs can be bent in any direction at the joints.

Again, in yet another, we find that the bony system is most at fault. If the child has reached the age when it should commence to walk and attempts to stand upon its feet, it may develop bow-

legs, knock-knees, lateral curvature of the spine, curving of the long bones, etc. If no attempt has been made to walk it may develop the postural deformities of rickets; the legs and arms are curved, the characteristic chest deformity appears, and the clavicles may be deformed from green-stick fracture. During the past year I have seen two cases of this form of fracture of both clavicles, and I may say here that I am convinced that they were fractures and not merely a bending of the bone, as in each case an amount of callus had been thrown out. The head is characteristic of rickets, etc. The brunt of the trouble here seems to have been put on the bony system. In this instance the digestion appears to be in good condition, the muscles and ligaments are in a fair state, while the nervous system does not present any evidence of abnormal irritability.

In a fifth child it will be seen that the digestive system is in fair condition. The nervous, bony and muscular systems do not give much trouble, but the blood is at fault. The child is markedly anemic, the skin and mucous membranes are pale, the spleen is enlarged and frequently the liver is in the same condition. Some of these cases are true types of Von Jaksch's anemia—we get the anemia, enlarged spleen and the blood changes characteristic of this disease.

I think that to this list we might add a sixth, or what we may term a mixed group. In this last we may find any two systems involved at the same time, as the nervous and bony systems, or the muscular and digestive systems may be gravely disturbed at the same time.

Consequently I think we can with advantage divide rickets into six system groups: Nervous; Digestive; Muscular and Ligamentous; Blood; Bony; Mixed.

All the children examined by me were either pure black or had colored blood in their composition, and I have divided them into four groups for the sake of convenience:

1. Black, with no known admixture of white blood.
2. Three-quarters black, with a Sambo father and a pure black mother, or *vice versa*.
3. Sambo children, with half black and half white blood.
4. Light, with a white father and a Sambo mother, or *vice versa*.

A great many of the parents gave a history of the children having had malaria, so that I made a careful examination for an enlarged spleen. I was surprised, however, to find this con-

dition present in only one child, hence not much faith can be put in the statement of the children having had fever, as they call mostly every disease malaria. I was told that yaws was fairly common in this district, but I failed to find one case among the 217 children examined by me; however, there are many cases to be found in different parts of the Island. I was surprised not to find one case of congenital syphilis among those children, considering that I examined the poorest children in Kingston and that this disease is not uncommon among the Negroes of Jamaica. Nervous diseases are not common; the little black child seems to have a pretty stable nervous system.

Among organic diseases of the nervous system I found one case of congenital diplegia, another case of infantile hemiplegia and one child was deaf and dumb. A young girl of fifteen years suffered from loss of sight and other symptoms which suggested a postcerebrospinal condition. Epilepsy is not common in the young Negro child. I came across only one case suffering from this trouble.

Enlarged tonsils and adenoids are not common among the black children; I only met with six cases, or about 3 per cent. They were of a mild type and not one of them exhibited the typical adenoid expression. The temperature is fairly even on the island; there is not much variation between summer and winter. At the time of writing it is winter, and the temperature has been over 89° F. in the middle of the day; however, the nights and mornings are cool. An important point in this connection is that while the black children are practically free from enlarged tonsils and adenoids, it is a common affection in the white children, both in the Creole and in those who come out from England or America to make Jamaica their future home. It is an affection of the white children and not of the black children.

Here again I think that enlarged tonsils and adenoids is a congenital condition. Some children are born with an excess of lymphoid tissue in the nasopharynx. Again it appears to be a family disease; many families escape altogether, while in others all the children have to be operated upon to give them relief. The slightest cold in those children, or irritation by dust, such as obtains in Kingston at the present time (the limestone dust from the fallen earthquake buildings being constantly in the atmosphere), will set up an active growth of this pre-existing lymphoid tissue. I do not find any of the children wearing glasses. Ear diseases are very common. This is to be expected.

Although the temperature is very high at the present time I only met with one case of diarrhea. One child of six or seven years had dysentery. I am convinced that given a temperature of this height in Montreal or in New York I would have come across many cases of this trouble.

Three children were suffering from a mild type of malaria.

Skin lesions are common. Several had eczema, others a pustular eruption, most likely caused by scratching with dirty fingers; several were marked with mosquito bites. I came across several cases of leukoderma, mostly of the patchy type.

Most of the children had fine teeth, the beautiful whiteness of which would put many a white child to shame. Many of the children presented distended abdomens; this is largely produced by the quality of food eaten by them, which is usually of a starchy nature.

In my wanderings I met with two cases of albinism in the colored child. The first was not typical of the Negro albino, as the little girl, who was twelve years old, was partly white; however, she was a typical albino, and nystagmus was marked in this case. The second case was in a lad of about sixteen years of age, whose parents were black. His skin was white, but his whole body presented a reddish hue; his hair was short and curly, but of a yellowish or golden color; the eyebrows and eye lashes were quite white. The nose was broad and squatty, the lips thick and large. The eyes were typical of what one sees in a white albino, and he squints at one with half-closed lids. Nature's pigment is practically absent in this individual. The lad was a Negro, but at the same time was a typical albino; he was well developed and very sensitive about his condition. I was pleased to meet with this case, as it is rare to find albinism in a Negro.

I examined carefully the lymphatic system in the children under observation. Out of the number examined about 100 live in Smith's Village in Kingston—this is the poorest and most crowded district in the city—20 were from the middle of the city and about 80 from Alman Town in Kingston; this is a much better and cleaner district than Smith's Village. Sixteen of the 80 children had enlarged nodes in the neck, axilla, or in both, and 30 were among the other cases. It will be seen that 25 per cent of the poorer children had enlarged nodes and only 20 per cent of the children living in the healthier district. The irritation of the skin produced by the rashes and scratching had, I think, some influence in producing this condition of the nodes.

The question arises, what part might the malarial parasite play in producing this chronically-enlarged condition of the nodes? The enlargement is quite different from that found in the acute infectious diseases; they are not tender and actually inflamed, but on the contrary, are quite hard and remain indefinitely enlarged, nor do they resolve as in acute infectious diseases.

Umbilical hernia is quite common, and I was surprised to find twenty-four cases of this form of hernia among the 217 children examined. This means that over 10 per cent of the children suffered from umbilical hernia. I only detected one case of inguinal hernia. Why does umbilical hernia take place with such frequency? Most of the poor women in Smith's Village are confined by a dirty midwife and the umbilicus is kept in a far from clean condition, and there is no doubt that this dirty condition of things produces a weak scar, which yields readily later on. Many of the children have distended abdomens, and this also tends to produce this form of hernia. The causes generally producing this type of hernia do not obtain here. For instance, it is uncommon for a child to cough in Jamaica; again, these children are not troubled with constipation. We can thus exclude two of the chief causes of umbilical hernia, and as the children are remarkably happy and quiet and do not cry very much, we can do away with the last and most important cause—increased pressure.

The deformities which are common to the white child are very rarely found in the colored child of the Island. I did not meet with one case of talipes, scoliosis, or of spinal deformity due to caries. I must say that the newborn colored children are pictures of health; their limbs are firm and well rounded. Many of the black children come into the world looking nearly as white as a dark-complexioned white child. Many, who are only partially black, appear perfectly white at birth, but, as a rule, the helix of the ear is slightly colored and the genitals of both male and female always are pigmented. I had a good opportunity to note this as I examined twenty-five newborn children in the Jubilee Hospital, and I have to thank the Hon. J. Errington Ker, S.M.O., of Jamaica, for giving me *carte blanche* to make use of the material in the above institution. As the children grow older they become darker and darker until they reach the color that nature intended, depending upon the color of the father and mother. Many of them are quite black at birth. The colored woman makes a good mother; if it be possible she will nurse her child, and it does not matter how many children she may have, she will work hard and

do her best to support them. She realizes the fact that she has a duty to perform toward her children.

As a rule, the colored child is a healthy child, and it is not an uncommon sight to see a little girl of twelve years walk down from the hills into Kingston market carrying on her head a basket containing oranges, yam, bread fruit, and other produce weighing 30 to 35 pounds. The distance into Kingston may be nine miles, but she will walk merrily back in the evening the same distance. The mountain children are healthy, and as they carry practically everything on their heads they have a fine erect carriage and well developed chests.

The infants and young children are not prone to develop tuberculosis; however, it is common in boys and girls after the age of fifteen; no doubt it is often contracted through direct contagion and want of fresh air, as they close their little houses of two rooms at night so as not to admit fresh air.

Jamaica is essentially a black child's country; this child will thrive and do well in its native air, but I cannot say the same for the white child. As a rule, the white child is pale; his appetite is poor, and he requires a frequent change of air to keep him in condition. He not only suffers from the ills peculiar to this hot climate, such as malaria, debility, etc., but he has to battle, also, against the diseases which worry the child living in a colder climate, as typhoid fever, bronchitis, adenoids and tonsils, rickets, etc. Many of these little children suffer from malaria, and it leaves them in a miserable condition, with very tedious convalescence. If they pass six years of age they may be fairly robust. I certainly think that a white father should not allow his child to remain on the Island for a longer stretch than nine months at a time. The child should have frequent trips to England, Canada, or to some cool climate, if he can afford it. Of course, there are some children who will thrive anywhere, but my remarks apply to the average white child. Many of the children do go home every year for a trip, and they keep in pretty good condition.

Some months ago I read with great interest an article published in the ARCHIVES OF PEDIATRICS, June, 1907, by Dr. Joseph Brenneman, of Chicago, entitled: "The Sacral or So-called Mongolian Pigment Spots of Earliest Infancy and Childhood, With Especial Reference to their Occurrence in the American Negro." I thought, as I had the opportunity, that I would examine for the spots in the West Indian child. Out of the 217 children ex-

amined 89 were pure black, 48 three-quarters black, 57 were Sambo, and the remaining 23 were light. I found that 44 children had Mongolian spots. As to the color of these, 8 were pure black, 18 three-quarters black, 15 were Sambo and 3 were light children. Twenty-five of the children were less than ten days old, and among this number I found that twenty of them, or 80 per cent, had the spots. Twenty-eight children under one month old were examined, and out of this number there were twenty-two who had Mongolian spots. Forty were six months and under, and this group presented 27 with the spots. Fifty children were one year and under, and 33 of them had Mongolian spots.

In children of one to two years there were 40 out of 83 who had the spots. I only found 4 children with Mongolian spots who were over two years of age, one of these being a child of five.

It will be seen in this list that we get Mongolian spots in 80 per cent of colored children who are under ten days old; the percentage does not change to any extent in the children who reach one month. As they advance in age, however, the percentage of spots gradually lessens. We only find 27 children out of 40 at six months old who have the spots. The percentage is practically the same up to the first year, but in children of one to two years I only found 40 out of 83 who had them, a little under 50 per cent. It is a rare event to find them in children over two years of age—only two were in this group.

From the above figures it will be seen that most of the newborn colored children have those spots, and as the children advance in age they progressively become less and less common. It will be found that the degree of color of the child influences the presence or absence of the spots. As will be seen by the above list, 89 of the children were quite black, and in them I only found 8 with Mongolian spots. On the other hand, 18 out of 48 three-quarters black children had them well marked. Fifteen out of 57 Sambo children presented them, but only 3 out of 23 light children had them. So if the child is too dark or too light they are not often present. I examined many children who were nearly white in appearance but who had black parents, and in these cases it was rare to find the spots, though I am inclined to think that they would show up when the child reached the age of one or two months.

The spots were found on different parts of the body. I detected them most frequently on the lower part of the sacrum;

next in frequency they were found in the gluteal region, ten being bilateral. They are seen at times covering a large portion of the back; are also found on the shoulder, thigh, hip, lower leg, etc. In one child I found but one spot about the size of a five-cent piece; in others they reach the size of the hand. One of the children presented a peculiar condition of the back—there were large spots on the lower portion of the spine, but higher up I found a mottling like so many pieces of shot. I found spots in one set of twins.

As to the color of the Mongolian spots, in the densely black child they have a bluish appearance; in the Sambo children usually bluish, dark or light in shade; in many I found a greenish hue. I found the spots fading in some of the children. The observant mothers have noticed them and some think they are birth marks, others that their presence is due to the fact that when pregnant they wished for food they could not obtain; this was generally the liver of some animal. One good woman told me that she had eight children, all of whom had the Mongolian spots, but that they wore off as the children became older. I am convinced that the spots became darker in color until the child reaches the age of three months; they remain stationary for some time and then gradually fade away.

STICKLER, G. B. AND YONEMOTO, R. H.: ACUTE PANCREATITIS IN CHILDREN. (A.M.A. Journal Diseases of Children, 95:206, Feb. 1958).

A case of acute pancreatitis in a 4-year-old girl is reported. Thirty-seven other cases of acute pancreatitis occurring in the pediatric age group were found in the literature. Seven of them were caused by trauma; one by trichobezoar; two, possibly by ascarides, and three during steroid hormone treatment; one was conceivably due to mumps. The etiology of the other twenty-four cases remained obscure. The clinical course of this disease in children, regardless of the different etiologies, was found to be very typical, with a sudden onset of abdominal pain and vomiting, all the signs of an acute abdomen, marked leucocytosis and elevated serum amylase levels, and, at surgery, blood-stained peritoneal fluid, multiple fat necrosis, and enlargement and edema of the pancreas. AUTHORS' SUMMARY

DEPARTMENT OF ABSTRACTS

Edited by

MICHAEL A. BRESCIA, M.D., NEW YORK

STOPPELMAN, M. R. H. AND DRION, E. F.: COMPLICATIONS OF INTRACUTANEOUS BCG VACCINATION IN NEWBORN INFANTS. A SURVEY 3½ YEARS AFTER THE VACCINATIONS. (Acta Paediatrica, 47:65, Jan. 1958).

A large number of children who had been vaccinated intracutaneously with BCG vaccine in the neonatal period were re-examined 3½ years after vaccination. This study comprises three groups of children. Group 1, who received two injections of 0.1 ml. of BCG vaccine; Group 2, who received two injections of 0.05 ml.; and Group 3, who received two injections of 0.03 ml. Of 1,949 children vaccinated 3½ years previously, 1,608 could be rechecked. The Mantoux test in a dilution of 1:100 was positive in 87.5 per cent to 98 per cent of all cases. Suppuration of regional lymph nodes occurred in 26.6 per cent of the children of Group 1, in 7.1 per cent of those in Group 2, and in 3.1 per cent of those in Group 3. In many cases suppuration of one or more regional lymph glands began ten months or longer after BCG vaccination. Six children showed enlargement of regional lymph glands, and seven children had suppurated regional glands 3½ years after vaccination with BCG. In five children pus was aspirated and examined bacteriologically; no acid-fast bacteria were isolated by the bacteriologist. The percentages of negative skin tests and complications showed statistically significant differences in the small groups of children arranged according to the date of vaccination. AUTHORS' SUMMARY

TANGHERONI, W. AND PARDELLI, L.: THE ELECTROENCEPHALOGRAM IN THE NEWBORN. STUDIES OF THE PREMATURE AND IMMATURE. (Il Lattante, 29:7, Jan. 1958).

The authors performed electroencephalographic studies on thirty premature infants during their first month of life. They find that the electroencephalogram is a better index of length of gestation than the weight factor. Cerebral development and the degree of immaturity of the encephalon is fairly accurately shown by the E.E.G. In an infant of only seven months gestation, the E.E.G. shows an insignificant electrocerebral activity on the

occipito-central areas. After eight months gestation, a basal rhythm occurs whose morphology begins to assume the appearance of the normal full-term infant. M.A.B.

HUBBLE, D.: THE PROBLEMS OF PUBERTY. (British Medical Journal, 5064:191, Jan. 25, 1958).

The family doctor, the school doctor, and the pediatrician should be prepared to give advice, as practical biologists, to the adolescent occupied with the sexual problems of puberty. They should recognize that masturbation is usual in boys and that homosexuality is a common, and often transient, manifestation. There is still much ignorance of the sexual function among adolescents, and the doctor is in an excellent position to provide instruction. Anorexia nervosa does not occur so commonly today — girls are now more likely to be ashamed of a failure of breast development than to be shy of a feminine figure. The wide variation in the age of puberty must be recognized, and treatment should not be undertaken in boys before the age of 17 years. The necessary investigations and modes of treatment are outlined with three illustrative cases. Obesity should be treated, and the persistence of adolescent obesity represents a failure of pediatric care.

AUTHOR'S SUMMARY

DOERMANN, P.; LUNSETH, J. AND SEGNITZ, R. H.: OBSTRUCTING SUBGLOTTIC HEMANGIOMA OF THE LARYNX IN INFANCY. REVIEW OF THE LITERATURE AND REPORT OF A DECEPTIVE CASE. (New England Journal of Medicine, 258:68, Jan. 9, 1958).

A case of subglottic hemangioma of the larynx in an infant that was extremely deceptive and diagnosed with certainty only at autopsy is reported. The course of upper respiratory obstruction was a significant and characteristic clinical observation. A unique feature of this case was that the hemangioma was not grossly apparent by direct laryngoscopy or bronchoscopy. Only fourteen previous cases of juvenile subglottic hemangioma have been reported. This lesion is probably more prevalent than indicated by reports, and should be considered in the differential diagnosis of upper respiratory obstruction in infants. Irradiation preceded by tracheotomy is recommended as the treatment of choice for proved cases and might also be carefully undertaken when the site of respiratory obstruction and the clinical course are suggestive of this deceptive lesion. AUTHORS' SUMMARY

DRILLIEN, C. M.: GROWTH AND DEVELOPMENT IN A GROUP OF CHILDREN OF VERY LOW BIRTH WEIGHT. (Archives of Disease in Childhood, 33:10, Feb. 1958).

The results can be summarized as follows: *Physical Growth.* The majority were considerably below average in both weight and height. Out of sixty-four children, only five had reached the expected weight for their age, and six out of fifty-three had reached the expected height. The retardation in weight was the most marked, the children being underweight for their height as well as generally small. *Mental Development.* In a group of thirty-eight pre-school children, only fourteen were considered to have a development quotient of 90 or over. In the school age group of twenty-one children, three were considered to be of average intelligence. *Morbidity.* Children in this low birth weight group appeared to be particularly susceptible to lower respiratory infections. In children of 3 years and under, the incidence was four times as high as that in a matched control group of maturely born children. *Physical Handicaps.* Out of thirty-one children between the ages of 1 and 3 years, five were found to suffer from cerebral diplegia. One further case was found in the school-age group. One half of the children had a visual defect, and in one-third this could be considered a definite handicap. *Emotional disorders.* Behavior problems were reported in two-thirds of the cases, and in one-third the emotional disorder could be considered of quite a severe degree. At least two-thirds of infants in the low birth weight group sustained physical, mental or emotional handicap in later infancy and childhood. This figure is considerably in excess of previous estimates and, moreover, about twice as many under-3-year-old children were severely handicapped as in those of school age. It is suggested that as the survival rate of very small premature infants improves an increasing proportion of damaged infants will survive. AUTHOR'S SUMMARY

AXNICK, N. W. AND ALEXANDER, E. R.: TETANUS IN THE UNITED STATES: A REVIEW OF THE PROBLEM. (American Journal of Public Health, 47:1493, Dec. 1957).

The morbidity and mortality due to tetanus in the United States is reviewed for the period 1947-1955. Despite the advent of improved preventive and therapeutic methods, the incidence of tetanus has shown little change. Important features of the mortality data are the frequency of tetanus deaths in nonwhites and

among children under 28 days of age. Thirteen southern states accounted for nearly all of the neonatal deaths. A proposal is made for increased efforts of public health workers for universal active immunization in infancy. In addition, it is suggested that in areas where tetanus neonatorum is reported, that the incidence may be reduced by active immunization of the expectant mother.

AUTHORS' SUMMARY

NORMAN, F. A. and PRATT, E. L.: FEEDING OF INFANTS AND CHILDREN IN HOT WEATHER. (Journal American Medical Association, 166:2168, April 26, 1958).

Hot weather imposes no special dietary requirements for healthy infants and children, except for an increased water intake. If infants and children ingesting well-balanced diets do not tolerate ordinary heat stress, they should be investigated for illness rather than changing their diets. Poor appetites and faulty eating habits may result from the uncontrolled use of cold, high-caloric drinks or foods, from failure to take adequate outdoor exercise, or from overindulgence in between-meal snacks. It is unwise for adults to "condition" children to dislike hot weather or to foist summertime food fads on them.

AUTHORS' SUMMARY

SMELLIE, J. M.: CABRUTAMIDE IN JUVENILE DIABETES. (British Medical Journal, 5070:553, March 8, 1958).

Three children whose diabetes was of very recent origin and who had little or no ketosis have been studied as in-patients. The hypoglycemic action of carbutamide has been demonstrated, and in two was associated with a reduction in the glycosuria. Such effects were achieved only with relatively high and potentially dangerous blood sulphonamide levels, and evidences of ill-health of a non-specific character, presumably due to sulphonamide intoxication, soon developed. These studies support the view of others that carbutamide has no place in the treatment of diabetes in childhood, even though the disease is of very recent origin and uncomplicated by ketosis. Attention was focused on these children on the assumption that they might still have some effective endogenous insulin and whether the failure to respond to the drug signifies that this assumption is erroneous or that the action is in no way dependent on endogenous insulin remains unanswered. No investigations have been undertaken to ascertain whether carbutamide will reduce the exogenous insulin requirements, as it is

considered that such properties would not have any practical advantages in the treatment of diabetes in this age group.

AUTHOR'S SUMMARY

WEIL, A. A.; NOSIK, W. A. and DEMMY, N.: ELECTROENCEPHALOGRAPHIC CORRELATION OF LAUGHING FITS. (American Journal Medical Sciences, 235:301, March 1958).

Four children having unmotivated epileptic laughing fits were electroencephalographically studied. Clinical diagnoses were as follows: 1—Papilloma of the third ventricle, infiltrating into the tip of the temporal lobe. 2—Postencephalitic, mesencephalic seizures. 3—"Birth trauma" with mental retardation, akinetic-motor and temporal lobe seizures. 4—"Birth trauma" with hyperkinetic behavior disorder and nocturnal laughing fits. The epileptic nature of these laughing fits was demonstrated by the fact that these laughing fits were inappropriate to any environmental factors; that they preceded or were a part of other epileptic phenomenon; and that all four subjects had paroxysmal EEG abnormalities. Interseizure EEGs showed a wide variety of abnormalities, such as focal temporal spiking and slowing, spike-dome variant formations and diffuse slowing in one patient (following neurosurgical intervention but with continuation of laughing fits). Electroencephalographic recordings were obtained in two patients during laughing fits and both were characterized by focal, temporal lobe discharges A review of the literature makes it apparent that laughing fits are prone to occur in disturbances around third ventricle areas and diencephalon, with projection to the temporal lobe. Our own electroencephalographic and neurological experiences indicate the possibility of limbic area activation as being responsible for epileptic laughing fits.

AUTHORS' SUMMARY

COHEN, H.: 17-KETOGENIC STEROID EXCRETION IN OBESE CHILDREN BEFORE AND AFTER WEIGHT REDUCTION. (British Medical Journal, 5072:696, March 22, 1958).

The case histories are recorded of four patients—children and adolescents—who suffered from obesity. Each patient initially had a raised urinary excretion of 17-ketogenic steroid, which became normal after weight reduction due to dietary restriction. In one patient this phenomenon was observed on two occasions. Obesity in childhood is briefly discussed, and it is suggested that overnutrition may produce functional hyperpituitarism.

AUTHOR'S SUMMARY

SWORDS, MRS. B.: WHAT TO DO WHEN THE DOCTOR LEAVES. (Rocky Mountain Medical Journal, 55:56, March 1958).

I have a large bone to pick with you doctors. You tell us what to do until the doctor comes; but, when it gets to the hard part, what to do when he leaves? Nothing! Say a doctor has come to treat my child's "cold", he leaves me with my mind at ease but my hands full of prescriptions. "This isn't aureomycin," says the druggist, "its newer." His tone assumes that naturally I wouldn't want to be caught using last week's miracle drug, even if I will be using last year's clothes. Really doctor, I'm the old-fashioned kind, and it doesn't embarrass me in the least to use last week's or even last year's miracle drug. After the armored car has delivered the precious medicines, I find that one is to be given every three hours, one every hour, one after meals, and I'll be lucky if only one has to be given through the night. When I have TWO sick children, I just put on a large pot of coffee and prepare to make a night of it. I might find myself at two in the morning forcing down the chartreuse goop instead of the shocking pink. The doctor, coward that he is, has sneaked off and I've had to develop my own methods of giving the medicines. I find that in giving the medicine ("giving"—ha!) pinning the child to the floor with the foot is not advisable. A knee gives much better leverage. First I wind the upper part of the child in a sheet, taking care to leave the mouth exposed. Next I clamp him between my legs and get a half-nelson on his head. Now when I get the medicine to his mouth, I blow in his face to make him swallow. After the medicine has been administered—to the walls, floors, parents and a liberal coating to the child's outside—the question always arises whether the doctor expected that to happen and prescribed the dosage accordingly, or do we have to do it all over again? Of course, getting the medicine into them when they're sick isn't the hardest part, which comes when the doctor says, "He's doing fine; just keep him quiet for a couple of weeks and continue the medicine." That's when life really gets rough. Now the child looks upon each medicinal foray not only as a break in the deadly monotony, but as a personal challenge as well. Honestly, don't doctors have children? If they have ever been roped in on one of these medicinal battles, I wish they'd remember it the next time they're prescribing for a child. Either that or include a book on judo and a straight jacket, small size. If they don't, some of us parents will need a straight jacket, large size!

M.A.B.

LINCOLN, E. M.; DAVIES, P. A. AND BOVORNKITTI, S.: TUBERCULOUS PLEURISY WITH EFFUSION IN CHILDREN. A STUDY OF 202 CHILDREN WITH PARTICULAR REFERENCE TO PROGNOSIS. (American Review of Tuberculosis and Pulmonary Diseases, 77:271, Feb. 1958).

A group of 202 consecutive cases of pleurisy with effusion, presumably tuberculosis, is reported. All of the patients had positive tuberculin tests. In 176 of the children, 87 per cent of whom received no specific therapy, the effusion was not associated with any form of tuberculosis with a serious prognosis, and this group is analyzed in detail. Effusions occurred most commonly in the spring and summer, least often in the autumn; they were relatively early complications of primary tuberculosis, usually occurring within three to six months after the onset of the primary infection. Boys were affected almost twice as often as girls. Most of the cases of pleurisy (44.9 per cent) occurred in the 5 to 9 year age group; 33.5 per cent in those children less than 5 years old, and 21.6 per cent in those 10 through 13 years old. Effusions occurred on the right side slightly more often than on the left and were on the same side as the primary focus in about two-thirds of the cases. No roentgenographic evidence of primary tuberculosis other than the effusion was found in 20 per cent. Evidence of pleural thickening was present in more than half the patients for at least five years after the effusion and persisted in the majority of them for the duration of follow-up observations. The effusion was considered contributory to the moderate or severe scoliosis which developed later in 4.5 per cent of the group. Chronic pulmonary tuberculosis developed later in 5.7 per cent of the children. The incidence was nearly twice as high in those patients who were ten years of age or older at the onset of pleurisy. These comparatively low figures are in marked contrast to those commonly reported for adults. Extra-pulmonary tuberculous complications developed in a further 3.4 per cent of the group. The total mortality from all causes was 5.1 per cent. Age appeared to have a definite bearing on the prognosis in that the morbidity in the zero to 4 year old age group was 6.8 per cent, 10.1 per cent in the 5 to 9 year old group, and 10.5 per cent in those 10 to 13 years of age. The difference in the percentage of morbidity was due to the increased risk of developing chronic pulmonary tuberculosis as the child grew older. In the entire group of 202 patients, pleurisy with effusion was associated with other forms of tuberculosis of serious prognosis, that is, generalized

hematogenous tuberculosis, in 26 patients. The mortality in this group was 65.4 per cent, and it is probable that the pleurisy was not an important factor in creating this high rate.

AUTHORS' SUMMARY

CHOWN, B.: THE PLACE OF EARLY INDUCTION IN THE MANAGEMENT OF ERYTHROBLASTOSIS FETALIS. (Canadian Medical Association Journal, 78:252, Feb. 15, 1958).

The place of early induction of labor in the management of erythroblastosis is pre-eminently in those cases in which a woman has had one or more stillbirths due to erythroblastosis, or babies with hydrops, and whose husbands are homozygous Rh-positive. If there has been one example of fetal death from erythroblastosis or of hydrops, the chances are nine out of ten that the next Rh-positive fetus will die before the fortieth week. Induction at thirty-four to thirty-six weeks will save better than half of the babies who would otherwise die. If a woman has had two fetuses die of erythroblastosis or with hydrops, almost 100 per cent of future Rh-positive fetuses will die before forty weeks. By induction at thirty-two to thirty-four weeks, you can save more than half who would die. Induction should be carried out in consultation with an obstetrician and in a hospital expert in the care of these babies. If they are not to die or suffer kernicterus after birth, they require the most meticulous care and treatment in the first 72 hours. An additional indication for early induction that the author uses is a rapid and marked rise in the antibody titre.

M.A.B.

KENDIG, E. L., JR. AND RODGERS, W. L.: TUBERCULOSIS IN THE NEONATAL PERIOD. (American Review of Tuberculosis and Pulmonary Diseases, 77:418, March 1958).

Nine of the thirty infants born of mothers with supposedly inactive tuberculosis became infected with the disease. Of the ten infants who were separated at birth from their mothers for periods ranging from 7 weeks to 2 years, six developed tuberculous infection. This study suggests that isolation of infants until the mother's sputum is negative for tubercle bacilli and she is considered to have inactive disease may not be enough to prevent infection in the infant. Supportive evidence is not presented here but, on the basis of studies by others with BCG, it is suggested that temporary isolation and BCG vaccination appear to constitute the best approach to the problem. AUTHORS' SUMMARY

FRIEDMAN, M. S.: TRAUMATIC PERIOSTITIS IN INFANTS AND CHILDREN. (Journal American Medical Association, 166:1840, April 12, 1958).

Traumatic periostitis is a condition affecting the long bones of infants and children. Injury to the periosteum of these children, even a relatively minor injury, may cause periosteal stripping and subperiosteal hemorrhage followed by calcifying periostitis. Since in most cases of traumatic periostitis trauma is not suspected, often forgotten, or even entirely denied by those responsible for the care of the child, the clinical and roentgenographic manifestations of this condition may be rather perplexing to the physician. The clinical picture may be that of a pseudoparalysis of an extremity, resembling poliomyelitis or congenital syphilis. Swelling, localized tenderness, reluctance to move an extremity, and excessive sensitiveness to being handled may suggest scurvy. The roentgenographic manifestations of traumatic periostitis may in themselves prove puzzling to those who are not aware of the condition. A lesion may even be revealed in the roentgenogram at a site in which there are no clinical manifestations. The resemblance between traumatic periostitis and congenital hyperostosis in the roentgenogram is striking and local swelling, tenderness, and periostitis may be difficult to differentiate from acute osteomyelitis or a bone tumor. Since traumatic periostitis is a relatively benign disease which subsides clinically within a few weeks and rarely leaves residual manifestations even in the roentgenogram, it behooves us to be cognizant of its existence and to differentiate it from skeletal lesions of a more serious nature.

AUTHOR'S SUMMARY

CANTWELL, R. J.: RUBELLA ENCEPHALITIS. (British Medical Journal, 5059:1471, Dec. 21, 1957).

A case of rubella encephalitis with predominant cerebellar signs is described, the onset of which preceded the eruption by one day. Another case of rubella meningo-encephalitis is described, the onset of which followed the eruption by one week. In each instance full recovery ensued and there have been no sequelae. The etiology, incidence, clinical patterns, pathology, prognosis, sequelae, and treatment of the neurological lesions complicating rubella are discussed. Contrary to general opinion, there is evidence to suggest that the incidence of rubella encephalitis (unlike its sequelae) differs little from that of morbilli encephalitis.

AUTHOR'S SUMMARY

BROWN, J. J. M.: HEPATIC HEMORRHAGE IN THE NEWBORN. (Archives of Disease in Childhood, 32:480, December 1957).

Trauma during delivery may cause liver injury especially in premature and post-mature infants. A subcapsular hematoma is formed and rupture of the capsule of the liver follows immediately or is delayed for a few days. The continuing bleeding is more severe than would be expected from the damage to the liver parenchyma alone and asphyxia or prothrombin deficiency may be responsible. Rupture of the capsule may be followed by bleeding of such severity that death occurs within minutes before treatment can be begun. The diagnosis of subcapsular hematoma of the liver can be made clinically in some cases and should be suspected in all cases of pallor and falling hemaglobin with otherwise normal blood findings. As rupture appears to be certain, treatment should be begun before the subcapsular hematoma erupts through the capsule. Straight radiography may be of value in establishing the diagnosis of free blood in the peritoneal cavity. Transfusion is the most important therapeutic measure. The amount of blood required is likely to be underestimated. Surgical control of the bleeding may be difficult and may be unnecessary but operation may be valuable in estimating the amount of blood loss and in excluding other conditions requiring operative treatment. It is possible that the successes following operation have been due to the undoubted fact that the babies coming to operation have been those in whom rupture was delayed and blood loss less rapid giving more time for the making of the clinical diagnosis. A case of hepatic hemorrhage is recorded in which surgical arrest of bleeding from the ruptured liver was readily secured and measurement of the blood in the peritoneal cavity was invaluable in the control of the blood replacement. AUTHOR'S SUMMARY

REED, L. S.: ALLERGY IN INFANTS AND CHILDREN. A NEW THERAPEUTIC APPROACH. (American Practitioner Digest of Treatment, 9:416, March 1958).

Eighteen allergic infants and children have been given injections of a new botanical extract (Anergex). Twelve had marked or complete relief of symptoms; four showed partial relief. One could not be followed, and was considered a failure. This product deserves further trial for the management of allergic diseases in infants and children. Food allergies may be minimized or abolished; a balanced diet can be given, promoting normal growth and development. Symptoms due to pollens, dust and other in-

halants may be decreased or eliminated by a short course of daily injections. The response is rapid and often dramatic, particularly in patients with severe frequently recurring asthmatic bronchitis. No side effects were observed other than muscular soreness at the site of injections. AUTHOR'S SUMMARY

BROWN, G. C.; SMITH, D. C.; PROTHRO, W. B. AND ROWE, R. E.: Duration of Sero-immunity after Poliomyelitis Vaccination. (Journal American Medical Association, 166:1960, April 19, 1958).

The duration of serum antibodies against poliomyelitis in one hundred and thirty-nine children was determined by testing their serums three years after primary vaccination and two years after booster inoculation. Two groups of school-age children who had received primary vaccination during the nationwide field trial of 1954 showed an average loss of only threefold to fourfold in antibody titer during the two year period after secondary immunization and still had high levels indicative of protection. These levels appeared to be regardless of the extent of primary stimulation. A third group who had been infants and pre-school children at the time of the primary vaccination had markedly lower levels of antibodies after the booster injection, but the mean loss of antibodies was of the same order of magnitude as that of older children. The mean levels of postbooster antibodies in vaccinated school children and the fold losses during the subsequent two years were almost identical with those reported by Lennette in patients convalescent from paralytic disease which had been confirmed by virus isolation.
AUTHORS' SUMMARY

BONGIOVANNI, A. M.; EBERLEIN, W. R. AND JONES, I. T.: IDIOPATHIC HYPERCALCEMIA OF INFANCY, WITH FAILURE TO THRIVE. REPORT OF THREE CASES, WITH A CONSIDERATION OF THE POSSIBLE ETIOLOGY. (New England Journal of Medicine, 257:951, Nov. 14, 1957).

Three cases of "idiopathic hypercalcemia of infancy, with failure to thrive," occurring within a two year period in a single children's hospital in the United States, are described. The condition has been seen much more commonly in the United Kingdom, although it is possible that it is not always recognized in North America. The role of vitamin D is discussed. The more moderate use of vitamin D in infant nutrition is advisable. When the con-

dition occurs, it is best treated with a diet low in calcium and vitamin D. If the condition is severe, small doses of cortisone may be employed. Idiopathic hypercalcemia of infancy, with failure to thrive, is a distinct clinical entity of unknown cause, although it appears highly probable that vitamin D has an important role in the etiology. This syndrome is not synonymous with true vitamin D intoxication, but it may represent an expression of hypersensitivity to vitamin D in certain infants. Whether or not idiopathic hypercalcemia of infancy with failure to thrive is truly uncommon in the United States, it behooves the American physician to take warning and to avoid the excessive use of vitamin D. Moderation should be practiced in the commercial houses entrusted with the preparation of infant foods. It is likely that 400 or 500 I.U. of vitamin D per day is adequate for almost all infants. It would be desirable to obtain better control over the intake of infants exposed to so many sources in a "vitamin-hysterical" environment. The physician and parent, unfortunately, are not always aware of an infant's total vitamin D intake. It is virtually impossible under present conditions to determine the contribution from various "hidden" sources. AUTHORS' SUMMARY

KAWL, A. A. AND PASAMANICK, B.: ASSOCIATION OF FACTORS OF PREGNANCY WITH READING DISORDERS IN CHILDHOOD. (Journal American Medical Association, 166:1420, March 22, 1958).

The prenatal and paranatal records of 372 white male children with reading disorders born in Baltimore between 1935 and 1945 were compared with the records of a similar number of matched controls. The results of this study appear to indicate that there exists a relationship between certain abnormal conditions associated with birth and the subsequent development of reading disorders in the child. Children with reading disorders had a significantly larger proportion of premature births and abnormalities of the prenatal and paranatal periods than their control subjects. The toxemias of pregnancy and bleeding during pregnacy constituted those complications largely responsible for the differences found between the two groups. This investigation suggests that some of the reading disorders of children constitute a component in the continuum of reproductive casuality, previously hypothesized to be composed of a lethal component, consisting of abortions, stillbirths, and neonatal deaths, and a sublethal component, consisting of cerebral palsy, epilepsy, mental deficiency, and behavior disorders in children. AUTHORS' SUMMARY

BOOK REVIEWS

Edited by

MICHAEL A. BRESCIA, M.D., NEW YORK

REHABILITATION OF THE CARDIOVASCULAR PATIENT. Edited by Paul Dudley White, M.D.; Howard A. Rusk, M.D.; Bryan Williams, M.D. and Philip R. Lee, M.D. Cloth. Pp. 155, Illustrated. Price $7.00. New York: McGraw-Hill Co. Inc., 1958.

This book presents the major problems facing the practicing physician and internist in the management and rehabilitation of the cardiovascular patient. The book is written in a simple and interesting discussion style. All recent advances and experiences are reported with a considerable bibliography for those who may want to go into all details of cerebro-cardiovascular rehabilitation and therapy. The authors discuss detailed procedures for the rehabilitation of patients who have suffered cerebro-vascular accidents, rheumatic fever and/or heart disease, congenital heart disease, hypertension, hypertensive heart disease and coronary artery disease. Emphasis is given to the emotional, social and vocational aspects of management. The detailed procedures and exercises with photographic illustrations and examination charts are presented for the first time in medical textbook style.

The dynamic program, orderly presentation, can radically change the heretofore hopeless attitude which has existed for many years regarding the patient with cardiovascular disease, particularly cerebro-vascular disease. With modern rehabilitation methods, much can be done for the patient and his future outlook.

This manual is recommended to all practicing physicians, for it will certainly increase his armamentarium of therapy in the rehabilitation of cardiovascular patients in his practice.

JOSEPH M. COVELLI, M.D.

THE GOODHOUSEKEEPING BOOK OF BABY AND CHILD CARE. By I. Emmett Hall, Jr., M.D. Pp. 288. Illustrated. Price $4.95. New York: Appleton-Century, Crofts, Inc.

An honest, scientific and non-objective portrayal of child care and development, this book is pleasurable to read and well illustrated pictorially. The author states his information simply and remains

non-objective on controversial subjects, such as breast feeding versus bottle feeding; daily baths, feeding schedules and daily outings. Some of our pressing problems of teenage difficulties are openly discussed from a developmental viewpoint. Several feeding schedules are offered to parents on an individual basis to break away from rigidity and severe disciplinary feeding patterns. The chapter devoted to the sick child enlightens the parent, supplying the most modern scientific data on communicable diseases, with sufficient information to be encouraging and helpful to an overly anxious parent. A special chapter is devoted to retardation, prematurity, the physically handicapped and the adopted child.

This book can be read by any and every adult interested in children and their care. It is recommended to prenatal clinics, would-be-parents and personnel. The book reads with the same ease as a current best seller.

Furthermore, I consider it informative, unbiased and readily understandable. It will certainly change attitudes on misinterpretations and misapprehensions. ELSIE MECHTA, R.N.

LABORATORY APPLICATIONS IN CLINICAL PEDIATRICS. By Irving J. Wolman, M.D. Cloth. Pp. 1019. Price $15.00. New York: McGraw-Hill Book Company, Inc., 1957.

The author of this volume has done a magnificent job of compiling a mass of valuable information on laboratory data. Although one would like to remember the many laboratory findings, their very number and the variations within various age groups makes it practically impossible for the ordinary mortal. Hence, the value of having such a volume within easy reach. The book concerns itself particularly with the various laboratory findings not only of the child in general, but many of them are classified according to age, such as the newborn, first year, etc. when the findings are pertinent and tend to change with age. This, of course, is the most enhancing part of the text. A third of the book is properly devoted to blood and its various constituents and diseases. The book as mentioned is devoted to laboratory findings but, nevertheless, the author has made this most interesting by injecting the pertinent clinical findings as they are reflected in the laboratory. It is the type of book that should be easily accessible to all pediatricians, and it is highly recommended to all those who are concerned with the care of the child. M.A.B.

Announcement . . .

Dr. Philip S. Barba, past president of the American Academy of Pediatrics and chairman of Wyeth Laboratories' fellowship selection committee, has made known the names of 20 recipients of the Company's annual pediatric residency fellowships. Dr. John A. Anderson, Minneapolis; Dr. Amos Christie, Nashville; Dr. Hugh A. Carithers, Jacksonville, and Dr. Crawford Bost, San Francisco, rounded out the awarding committee membership. Selection was made on the basis of interest in pediatrics.

The group of physicians, representing thirteen States, is the first to benefit from the Philadelphia pharmaceutical firm's recently-established program. Each doctor will receive a $4,800. grant providing for a two-year postgraduate course in pediatrics. Those receiving the fellowship may attend any hospital whose residency training program is properly accredited.

EVERY LISTED PEDIATRIC SPECIALIST

was questioned by an independent research organization about an article published in the Archives of Pediatrics. These specialists were asked whether they agreed with the reprint material.

Of the pediatricians who believed their experience justified an opinion, 156—81.7%—replied yes to all three points in question.

4 out of 5 Leading Pediatricians agree that CREAM OF RICE

NEW, ½ Minute Cooking Time—10 Times Faster!
NEW, Easy-Pouring Spout!

a | **gives "more available caloric energy"**
than any wheat, rye, barley, corn or oat cereal. Of the 227 pediatricians answering definitely, 192—84.6%—said yes.

b | **is "more easily digestible"**
than any other kind of cereal. Of the 248 answering definitely, 212—85.5%—said yes.

c | **gives "nutritional energy more rapidly"**
than any other kind of cereal. Of the 220 answering definitely, 178—80.9%—said yes.

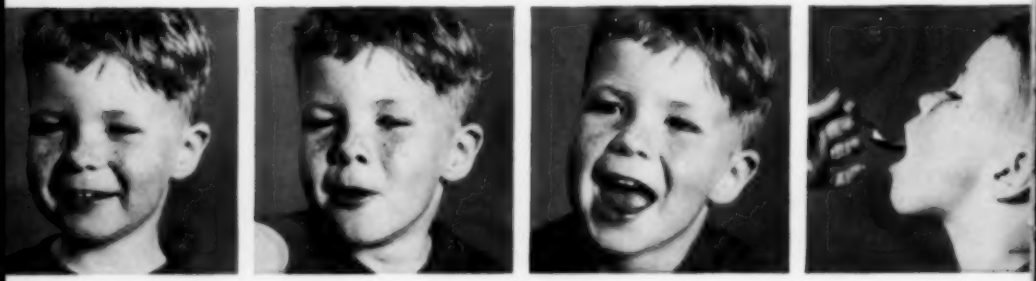
In addition, Cream of Rice is

MOST HYPOALLERGENIC, TOO

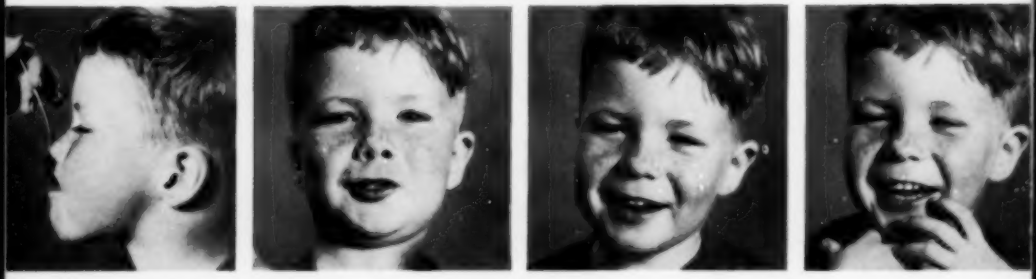
As reported in the Archives of Pediatrics by Slobody, Untracht and Hertzmark, "rice . . . shows the fewest allergic reactions of any cereal checked . . . Even children potentially allergic to rice have been shown to tolerate it well when it is cooked in the presence of moisture."

WRITE FOR PROFESSIONAL SAMPLES:
GROCERY STORE PRODUCTS CO., Dept. AP-7
WEST CHESTER, PA.

taste critics (and their elders)



like the good taste



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Oral Suspension

COSA-TETRACYN for Oral Suspension provides: Highest, fastest tetracycline blood levels, greatest consistency of high tetracycline blood levels—plus taste-tested orange flavor to delight patients young and old.

In 2 oz. bottles containing 1.5 Gm. (125 mg. per 5 cc. teaspoonful when reconstituted).

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References: **Carlozzi, M.:** Antibiotic Med. & Clin. Therapy *5*:146 (Feb.) 1958. **Shalowitz, M.:** Clin. Rev. *1*:30 (April) 1958.

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